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THE IRON AND STEEL INDUSTRY OF THE GDR

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Postwar Development; Situation at the Start of the 1951-1955 Five-Year Plan

1. Dismantling and Reconstruction

The iron and steel plants of the GDR, which had produced 13.2 percent of the total German output of iron and steel in 1939, suffered only slight war damage and would have been able to resume operations immediately on cessation of hostilities if the raw material supply had been normal. However, the Soviets interpreted the Potsdam Agreement in such a way that 80 percent of the entire crude-steel capacity in the GDR was dismantled and shipped to the USSR. Installations which could not be transported were blown up. The GDR's most important steel and steel mills were thus destroyed, including the Hennigsdorf Steelworks and Rolling Mill (Stahl- und Walzwerke Hennigsdorf), the Central-German Steelworks (Mitteldeutsche Stahlwerke) in Riesa, the Central-German Steelworks in Groeditz, the Central-German Steelworks in Brandenburg, the Central-German Steelworks in Leuchhammer, the Pirmas Steelworks, the Sachsen Cast-Steel Works (Sachsische Gussstahlwerke) in Doehlen, and the Trier Rolling Mill (Walzwerke) in Burg.

After conclusion of the dismantling and blasting operations, crude-steel production had dropped from an approximate 1.2 million tons per year to about 180,000 tons per year.

Rolled-steel capacity dropped by more than 85 percent, on the average; there no longer were any facilities for producing heavy sheet, rolled wire, high-grade steel, tubes, and tires. The rolling-mill capacity was reduced to barely 100,000 tons per year.

In the foundry industry, dismantling caused a smaller drop in capacity, although the largest and most modern plants were transferred to Soviet ownership; most of the capacity became property of the SAGs (Soviet Corporations).

Three plants taken over by SAGs were not affected by dismantling. They were the Maxhuetten (Maximilian Metallurgical Works) at Untermuhlenborn, the Thale Iron and Metallurgical Works (Eisen- und Huettenwerke Thale), and the Hettstedt Rolling Mill. In 1947, Maxhuetten was taken over by the GDR government, while Thale and Hettstedt remained SAG properties. The same year, Hettstedt was converted from a nonferrous rolling mill to a steel-sheet mill. Thale and Hettstedt were not affected by the return of 66 SAG plants to German hands, which started in May 1952. All other iron and steel plants have been people-owned since 1947.

The difficulties of reconstruction were partially overcome by the fact that the GDR succeeded in obtaining large quantities of equipment, both legally and illegally, from the West, prior to the outbreak of the Korean war. Complete rolling mills were obtained from West Germany for Riesa and Hennigsdorf. In 1949, the USSR returned three dismantled rolling mills to the GDR, because crude-steel production in the GDR exceeded rolling capacity, and the bottleneck was affecting reparations deliveries. The supplies from the West and from the USSR enabled the GDR to rebuild an efficient iron and steel industry in a comparatively short time. By the beginning of 1951, the capacities lost through war damage, dismantling, and destruction had been largely regained.

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2. Organization

The most important iron and steel plants, called key enterprises (S-5 plants), are under the direct supervision of the Ministry of Metallurgy and Ore Mining, which issues all plan directives for them. The following are key enterprises:

EKO (East Metallurgical Combine, Eisenhuettenkombinat Ost, Fuerstenberg/Oder, now StalinStadt)

Dochlen High-Grade-Steel Plant (Edelstahlwerk)

EWK (West Metallurgical Works, Eisenhuettenwerk West), Calbe/Saale
Riesa Steel and Rolling Mill (Stahl- und Walzwerk)

Brandenburg Steel and Rolling Mill (Stahl- und Walzwerk)

Hennigsdorf Wilhelm Florin Steel and Rolling Mill (Stahl- und Walzwerk),

Maxhuetten, Unterwellenborn

Michael Niederkirchner Plate-Rolling Mill (Blechwalzwerk), Eisen-
burg

Groeditz Iron and Steel Works (Eisen- und Stahlwerk)

Willi Becker Rolling Mill (Walzwerk), Kirchmoeser

The following plants are assigned to the Administration of People-Owned Enterprises of the Iron Industry (VVB Eisenindustrie), Berlin W 8:

Finow Bar-Rolling Mill (Stabeisenwalzwerk), formerly Hoffmann
u. Motz

Olbernhau Plate-Rolling Mill (Blechwalzwerke), formerly F. A.
Lange Metallwerke, A.G.

Auerhammer Semifinished-Steel Mill (Halbzeugwerke), Aue, formerly
F. A. Lange Metallwerke, A.G.

Burg Rolling Mill (Walzwerk), formerly Trierer Walzwerke A.G.

Faradit Tube and Rolling Mill (Roehren- und Walzwerke), Chemnitz,
formerly Faradit A.G., and Kopex Maschinenfabrik A.G.

Dittmar AG Bad Salzungen Cold-Rolling Mill (Kaltwalzwerk), formerly Jung u.

Oranienburg Spring Works (Federnfabrik), formerly K. G. Heintze
u. Blankertz

Lugau Drawing and Machine Works (Ziehwerk und Maschinenfabrik),
formerly Maschinenfabrik und Praezisionszieherei Edmund Schwarzkopf K.G.

Brotterode Drawing Mill (Ziehwerk)

Delitzsch Drawing Mill

Berlin Drawing Mill

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Lippendorf Ferroalloy Works (Ferrolegierungswerk), formerly Gesellschaft fuer Elektrometallurgie Dr Heinz Gehm

West Mueckenberg Ferroalloy Works, Lauchhammer-West

Lonzawerk, Spremberg

Coswig Chill-Casting Works, (Hartgusswerk), Coswig near Dresden, formerly Eisenwerk Coswig A.G.

Quedlinburg Chill-Casting Works, formerly Rudolph Leder GmbH

The following plants are assigned to the Administration of People-Owned Enterprises for Ore Mining (VVB Erzbergbau), Leipzig O 39:

United Harz Iron Mines (Vereinigte Harzer Eisengruben), Huettenrode, Braunesumpf, and Buechenberg

Wuenschendorf Dolomite Works, (Dolomitwerk) with branches at Gera-Pforten and Langenreinsdorf near Crimmitschau, formerly Mitteldeutsche Stahlwerke GmbH

The Ministry of Metallurgy and Ore Mining, with its main departments for the iron industry and for ore mining, controls not only the S-5 plants and the above VVBs; it also controls the SAG enterprises jointly with the Main Administration for Soviet Property in Germany. Thus, there is a close connection between the SAG Main Administration, the administration of the Soviet Control Commission, and the Ministry of Metallurgy and Ore Mining. Collaboration among these three organizations became even closer in 1952 because of the increased production of armament materials. This is a peculiarity of the iron and steel industry. Closer collaboration was also established between the two SAG plants, Thale and Hettstedt, on the one hand, and the people-owned plants, on the other, especially in regard to shipments of materials. The collaboration and the scope of authority of the administrative offices did not change with the administrative reform and the government reorganization.

3. Planning

Control figures for the crude production of the iron and steel industry are set by the Gosplan Commission of the USSR. From there, they go through the Plan-Economic Administration of the Soviet Control Commission and the Coordination and Control Office for Industry and Transport to the Metallurgy Department of the GDR State Planning Commission. At the same time, the plans are sent for inspection to the Office of Economic Questions. Control figures are issued for pig iron, crude steel (including open-hearth and electric-arc steel), and rolled steel (including heavy, medium, and thin sheet, seamless tubing, angle and channel bars). These control figures determine all other production of the iron and steel industry, e.g., iron ore, semifinished goods, dolomite, etc. The control figures set by the USSR planning authorities thus determine the entire production of the GDR iron and steel industry.

From the Metallurgy Department of the State Planning Commission, the plans are sent to the Main Administration for Metallurgy of the Ministry of Metallurgy and Ore Mining. There, they are allocated to the key enterprises and to VVBs, which determine the required labor, material, investments, and subsidies and return these data to the State Planning Commission via the Main Administration for Metallurgy. These two offices then draft projects for new construction, set deadlines, and draw up the final plan. When this plan document has been confirmed by the Coordination and Control Office for Industry and Transport, and when the Office of Economic Questions and the Soviet Control Commission have given their approval, the State Planning Commission secures unanimous

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approval from the People's Chamber, and the plan becomes law. From that point on, the main administrations of the Ministry of Metallurgy and Ore Mining are responsible for the execution of the plans, especially for adhering to the deadlines set for completion of new construction and for maintaining the quality specifications.

These plans contain detailed tasks for the individual plants. The plants must not deviate from these without permission of the ministry. They must submit reports on all operational matters every 10 days. In addition, the SED Central Committee appoints specially trained and politically reliable functionaries to the industry. Their main task is to ensure plan fulfillment with every means at their disposal.

In addition to the plans for production, investments, labor, and materials supply, which are computed on a one-year basis, monthly production and assortment plans are issued. These monthly plans determine for each individual steel and rolling mill what types of steel and rolled shapes it is to produce.

4. The Most Important Plants

a. EKO

EKO is the key plant of the Five-Year Plan. It is located at the present eastern boundary of the GDR. This location was chosen because shipments of coke from Poland and shipments of ore from the USSR were promised. The EKO is thus designed to operate entirely on the basis of raw materials supplied by the East.

The foundation stone for blast furnace I was laid on 1 January 1951. On 19 September 1951, the furnace started operation. On 5 January 1953, it had to be shut down because the foundation was sinking and the walls showed large cracks. The repairs took about 4 months and cost approximately 1.2 million Deutsche marks (East). Blast furnace II started operation on 16 January 1952 and blast furnace III, on 25 August 1952. Blast furnace IV, built under the direction of Soviet engineers, started operation on 7 November 1952. The daily output of blast furnaces I, II, and III is 460 tons on the average. Construction of a sintering installation will increase the pig-iron output in 1953.

Two additional blast furnaces are planned for 1953. Blast furnaces I through IV produce steel pig exclusively; output of the furnaces to be built in 1953 is to go to EKO's own steel mill. The shipments of coke from Poland and of ore from the USSR meet the quantity requirements agreed on, but they do not meet the delivery deadlines. Further difficulties are caused by the fact that insufficient spare parts are available for the blast furnaces. In particular, blast connections, fittings, and spare parts for the tap-hole plugging machines are lacking.

Plans for the steel and rolling mill were completed in spring 1952. In spring 1953, the construction of a steel mill, consisting of a Thomas steel installation, an open-hearth installation, and an electric-arc installation, is to be started. At the same time, a rolling mill for heavy and medium sheet is to be built, and a power plant is to be constructed.

The steel mill was originally planned to have ten open-hearth furnaces, with a capacity of 50 tons each. This has now been changed to 4 open-hearth furnaces of 50 tons' capacity each, 4 Thomas converters of 15 tons' capacity each, and 3 electric-arc furnaces of 10 - 25 tons' capacity each.

Liquid charges are used. A mixer, heated by blast-furnace gas, and tilting flat-furnace mixers are to be provided for the charging.

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The rolling mill is to be ready for operation at the end of 1953. It is to roll sheet exclusively. The plans can be considered as final. While the plan figures for the production of pig iron, steel pig, and rolled steel are lower than those given in previous plans, EKO will still be the largest plant of its kind in the GDR. Its location requires the building of a new city, with a population of about 50,000, and the construction of roads, bridges, harbor and transport facilities, etc. The inadequate supply of building materials has caused a considerable slowdown in housing construction.

b. Doehlen High-Grade-Steel Plant

A high-grade-steel mill has been under construction since spring 1949 on the site of the former Saechsische Gusstahlwerke Doehlen, a plant which was totally dismantled. In 1949, a pneumatic hammer and two open-hearth furnaces of 10 tons' capacity each were built. In 1950, the construction of a steel foundry was started, but its completion is being delayed in favor of the construction of an electric-arc steel installation. At the end of 1952, the two open-hearth furnaces, two electric-arc furnaces of 10 tons' capacity each, and one electric-arc furnace of 3.5 tons' capacity were in operation. In view of the importance of this plant for armament production, construction is to be completed during 1953, so that eight additional electric-arc furnaces of 10 tons' capacity each must be built now.

The steel foundry is to have two 5-ton electric-arc furnaces, one 3.5-ton electric-arc furnace, and one 10-ton open-hearth furnace. The plan to transfer a 17-ton furnace from Maxhuetta to Doehlen was dropped.

The rolling mill is to start operation at the end of 1953. It is to be equipped with an 1100 blooming mill, an 850 three-high mill, a 360 sheet mill, and a wire mill. All equipment is to be supplied by Czechoslovakia. The planned construction of a large forge and press shop was temporarily shelved. It is planned to have the Heinrich Rau plant at Wildau, the key enterprise for heavy machinery, build the forging press, but this plant will be fully occupied until mid-1953 with the construction of rolling-mill equipment for other plants. An annealing shop is also to be erected this year.

c. EMW

This is a new plant, on a site previously not used for industrial purposes. It is designed for smelting the ore slags found in large quantities in the GDR, and uses low-shaft furnaces. The location is favorable for transport, since it is in the immediate vicinity of the navigable Saale River and has connections to the rail system of Central Germany. Furthermore, iron-ore and brown-coal mines are located nearby.

The construction of this plant started in 1951. Two low-shaft furnaces started operation that year. By the end of 1952, ten low-shaft furnaces were in operation, and ten more are to be started up this year. By the end of 1953, the plant will thus have five batteries of four furnaces each. Foundry pig is produced exclusively. The oxygen installation was under construction and was to start operation in the first quarter 1953, supplying the furnaces with oxygen-enriched blast. The electric power plant, using furnace gas as fuel, will probably not be completed before mid-1953. A cement plant for making the slag is under construction. A workers settlement with a total of 1,500 units is planned, but by the end of 1952, barely 200 units had been completed.

d. Riesa Steel and Rolling Mill

This plant is located on the Elbe River and thus has good transport facilities. It had been totally dismantled, and rebuilding was not completed until 1952. The individual departments of the plant contain the following equipment.

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Steel mill -- five open-hearth furnaces of 100 tons' capacity each. The steel mill is to be completely mechanized in the next few years.

Steel foundry -- six open-hearth furnaces of 60 tons' capacity each, one open-hearth furnace of 25 tons' capacity, and two electric-arc furnaces of 15 tons' capacity each.

Rolling mill -- one 800 blooming mill, one 650 roughing mill, one 500 three-high mill, one wide-strip mill, one mill for seamless tubing of 52-140 millimeters in diameter, one butt-welding installation, one 360 sheet mill, one 280 wire mill, and one straightening and smoothing mill.

In 1952, Riesa started production of semifinished materials for armament purposes. It produced 87,410 tons of shapel steel for armament purposes, and 1,530 tons of armor plate with thicknesses up to 36 millimeters.

e. Brandenburg Steel and Rolling Mill

Since fall 1951, eight open-hearth furnaces have been brought up to full capacity. The planned construction of four additional open-hearth furnaces has been delayed. The frantic pace of construction and the resulting flaws are still causing frequent breakdowns. On the average, only five furnaces are operating at any given time, the other three being shut down for repairs.

The open-hearth steel produced here, types St. 37.12; MST 3; St-CK 12, 42, and 60; and dynamo and deep-drawing sheet, is delivered to the Hettstedt, Ilsenburg, Kirchzoeser, Thale, and Maghuetta plants in the form of blooms weighing 1.2-2.7 tons and in the form of ingots weighing up to 1.1 tons. The consumers complain constantly about the poor quality of the steel, especially about the frequent occurrence of shrink holes.

During the third quarter 1952, Brandenburg started producing armor plate, which is supplied only to the Ilsenburg and Hettstedt plants.

The rolling mill did not start operation in 1951, as had been planned originally. The Heinrich Rau plant at Wildau built an 850 two-high mill, and delivery of a wire mill was promised by the Skoda Works for 1953. A 1050 three-high mill, a sheet-rolling mill, and a tube mill are also planned. A chill-casting installation with a yearly capacity of 25,000 tons is still under construction and will probably be put in operation in mid-1953.

f. Wilhelm Florin Steel and Rolling Mill

The plant was originally built to supply the iron-consuming industries of the Berlin region, especially the electrical equipment industry. Use of brown coal from the nearby Senftenberg mines makes the plant independent of black coal from the Ruhr and from Upper Silesia.

Construction of the plant can be considered as completed. The individual departments of the plant are equipped as follows:

Steel mill -- four open-hearth furnaces of 100 tons' capacity each. No expansion of the steel mill is provided for by the plans; the only work now going on is the mechanization of the furnace operation.

Steel foundry -- two electric-arc furnaces of 15 tons' capacity each and one open-hearth furnace of 40 tons' capacity. Construction of three additional electric-arc furnaces of the same size is planned, but this is contingent on the supply of the furnace fittings from orbit countries. Open-hearth steel is made mainly in types St. 37.12, St-CK 12, St-CK 42, and as chrome-nickel alloys.

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Rolling mill -- one 750 three-high blooming mill, with a 650 blooming mill with two stands connected to it; one 350 double two-high mill; one 450 medium-sheet mill; and one 280 wire mill for wire having diameters between 5 and 16 millimeters.

The efficiency of the rolling mill has been considerably increased by simultaneous overhauling and mechanization. Since the plant's own production of steel does not meet the demand of the rolling mill, billets are obtained from the Brandenburg plant. Since the beginning of 1952, the plant has been rolling shapes for armament purposes; in 1952, this production amounted to 41,200 tons. A considerable increase in the production for armament purposes is planned in 1953.

g. Maxhuetten

Maxhuetten, an obsolete installation, was an SAG enterprise until 1947, at which time it was turned over to GDR administration. Modernizing work, which has been going on since then, had cost nearly as much by the end of 1952 as would have been needed for brand-new installations. Complete modernization of the plant is prevented mainly by a lack of space.

The individual departments have the following equipment.

Smelter -- three blast furnaces of 360 cubic meters each and one blast furnace of 285 cubic meters. The blast furnaces are to undergo further modernization. A Dwight-Lloyd belt for sintering the low-grade ores mined in Central Germany has been in operation since the end of 1951. The 285-cubic-meter furnace is to be enlarged to 400-500 cubic meters in 1953 - 1954. In addition, a 1,000-ton mixer is to be built. After these projects have been completed, Thomas pig is to be produced exclusively.

Steel mill -- four converters of 15 tons' capacity each and two electric-arc furnaces of 25 tons' capacity each. The construction of an installation for oxygen-enriched blast is to be completed in 1953.

Rolling mill -- one 1100 blooming mill; one 950 two-high mill; one 700 three-high mill; and one wide-strip mill consisting of a three-high roughing mill, a four-high intermediate mill, a four-high finishing mill, and a thin-sheet mill. The press and forge shop, with an annual capacity of about 17,000 tons, is to be modernized during the next few years.

Maxhuetten has also been included in the armament program of the GDR.

h. SAG Thale Iron and Metallurgical Works

This plant was not dismantled after the war because its equipment was obsolete. It was temporarily shut down but resumed operation under Soviet management in the last quarter 1945. At the beginning of 1946, it became part of the SAG Marten. It has the following equipment.

Steel mill -- three open-hearth furnaces of 60 tons' capacity each and two electric-arc furnaces of 10 tons' capacity each.

Rolling mill -- one blooming mill, one thin-sheet mill and one cold-rolling mill.

In addition, it contains a small foundry for cast iron and other metal, a stamping shop, one enameling shop, and a shop for producing containers and apparatus (not further identified). At the beginning of 1952, it was included in the GDR armament program.

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1. Willi Becker, Rolling Mill

This rolling mill is housed in two buildings of the former Kirchmoeser railroad repair yard. The two mills (one blooming mill and one thin-sheet mill) were originally taken to the USSR in 1945-1946 but were later sold back and returned to the GDR.

The Iron and Steel Industry of the GDR in the 1951-1955 Five-Year Plan

From 1946 to 1951, the iron and steel industry was given priority, and the reconstruction of its war-ravaged installations was completed. The 1952 and 1953 plans, however, show a shift toward the iron-processing industry. In 1936, when production of crude steel in the area of the present-day GDR amounted to 1.2 million tons, 1.8 million tons had to be supplied from West Germany to make up the 3 million tons of crude steel required by the processing industry of the region. As early as 1952, the consumption of the iron-processing industry exceeded the 1936 figure. In 1953, a requirement of about 2.4 million tons of crude steel and about 2 million tons of rolled steel can be expected. The construction of the EKO, the West Metallurgical Works, and the Doehlen steel mill will not have any effect prior to 1954 on the iron-processing industry which draws on domestic iron and steel.

1. Raw-Materials Supply

The supply of basic materials for the iron and steel industry of the GDR is inadequate. Even if the planned projects for increasing the supply of these basic materials can be fully accomplished, the GDR will still be dependent on imports, especially of iron ore and coke.

a. Iron Ore

The iron-ore deposits of the GDR are mainly chamoisite deposits of considerable size, located in Thuringen. The main deposits are located at the following places:

<u>Location</u>	<u>Av Iron Cont (%)</u>
Braunesumpf	30
Schmiedefeld	34
Wittmannsgereuth	30
Kamsdorf	25

All these ores are basic; only the ores at Eisenberg, containing an average of 25 percent iron, are acid. Exploitation work was already going on on a large scale in 1950. The following table shows GDR iron-ore production.

Table 1. Iron-Ore Production of the GDR

	<u>Actual 1950</u>	<u>Actual 1951</u>	<u>Actual 1952</u>	<u>Planned 1953</u>	<u>Control Figure 1955</u>
Quantity (1,000 tons)	386	592	852	1,080	2,300
Percent of 1950 production	100	153	221	280	596

The imports of high-grade iron ores, with 40-60 percent iron and containing manganese, planned in the Five-Year Plan are shown in the following table.

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Table 2. GDR Iron-Ore Imports (in 1,000 tons)

	<u>Actual, 1951</u>	<u>Actual, 1952</u>	<u>Planned, 1953</u>	<u>Control Figure, 1955</u>
From the USSR	104	246	320	420
From Sweden	67	72	84	120

b. Scrap and Steel Pig

During the first few postwar years, the steel mills were supplied with adequate quantities of scrap recovered from destroyed buildings and war materiel. In fact, until the beginning of 1950, the GDR was even able to export steel scrap. After that time, the supplying of the steel mills encountered serious difficulties, especially since the output of crude steel was being increased considerably. Despite large-scale collection drives, the planned supply of steel scrap could not be obtained in 1952 (see Table 3). In order not to endanger the production of the steel mills by the inadequate supply of steel scrap, charging of scrap was prohibited at EKO and at Marxhütte. Nevertheless, scrap is still being charged so as to reach higher output. A charge of 40 percent steel pig is prescribed for the steel mills, but the domestic supply is not sufficient to meet this specification. Steel pig is imported from the USSR and from Sweden (see Table 4).

Table 3. Scrap Supply of the GDR (in 1,000 tons)

	<u>1951</u>		<u>1952</u>		<u>1953</u>	<u>1955</u>
	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Control Figure</u>
Steel scrap	1,100	1,010	950	866	885	850
Cast-iron scrap	420	406	350	368	300	450

Table 4. Steel-Pig Imports (in 1,000 tons)

	<u>1951</u>		<u>1952</u>		<u>1953</u>	<u>1955</u>
	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Actual</u>	<u>Plan</u>	<u>Control Figure</u>
From the USSR	170	152	250	293	320	300
From Sweden	60	67	75	81	80	40

c. Equipment and Auxiliary Materials

The supply of rolls for the rolling mills is still beset by great difficulties. The people-owned chill-casting plants at Coswig and Quedlinburg have been expanded so that they are capable of casting and machining rolls up to 10 tons. Both plants have also been equipped with electric-arc furnaces. Groeditz is to be the only plant in the future to produce the forged rolls needed in the GDR. A large forge shop with a capacity of 45,000 tons and a press output of 22,000 tons is to be built there. This installation is to be completed in August 1953. Particularly great difficulties are encountered in the production of cold rolls. At present, they are supplied only by the press shop of Marxhütte in small sizes up to 300 millimeters in diameter. After Doehlen has started production, approximately mid-1953, the GDR's requirements will be satisfied by that plant.

The supply of dolomite is satisfactory; the supply of refractory brick, however, is totally inadequate. Magnesite has been imported from Hungary since 1952.

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Fuel supply creates no difficulties. The comparatively high production of brown coal ensures a satisfactory supply of generator briquettes for steel mills. Coke supply is covered 75 percent by imports from Poland and 25 percent from Czechoslovakia. The shipments arrive on time, and the quality of the coke is generally high. The plant built near Lauchhammer for the production of metallurgical coke from brown coal is still having great difficulties, which are caused mainly by the high sulfur content of the finished coke.

2. Production

The iron and steel industry has almost always been able to meet its planned production quota as far as quantity is concerned. However, plan fulfillment frequently is accomplished at the expense of quality. The poor quality of the products, especially of rolled steel, is a constant cause of complaints. It is caused mainly by the failure of the USSR and of the other orbit countries to make good on their promised deliveries.

a. Pig Iron

Table 5 shows that pig-iron production in 1955 is to be 402 percent of the 1950 production. The chief increase is to be in steel pig, specular cast iron, and foundry pig. A production of 400,000 tons of foundry pig in 1955, plus the cast-iron scrap obtained, should make it possible to satisfy the demand of the foundries from domestic production. It can be expected, however, that the production of steel pig and Thomas pig will be increased further.

Table 5. Pig Iron Production of the GDR

	1950 Actual	1951 Actual	1952 Planned	1952 Actual	1953 Planned	1955 Control Figure
	(in 1,000 tons)					
Thomas pig	252	285	420	390	365	400
Foundry pig	69	67	130	99	128	400
Steel pig and specular iron	27	50	75	84	247	600
Total	348	402	625	573	700	1,400
	(in percent of 1950 production)					
Thomas pig	100	113	167	155	145	199
Foundry pig	100	97	188	144	272	579
Steel pig and specular iron	100	185	278	311	915	2,225
Total	100	115	180	165	270	402

As Table 4 shows, pig-iron production at Maxhütte is to be about 400,000 tons in 1955. However, if the planned skip chargers for the furnaces are actually built, in addition to the already existing sintering plant, production at Maxhütte should reach 500,000 tons per year by 1955. The West Metallurgical Works is to produce foundry pig only; considering the success achieved so far with the low-shaft furnaces, it can be assumed that the target of 400,000 tons will not only be reached but even exceeded.

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Table 6. GDR Pig-Iron Production by Individual Plants (in 1,000 tons)

	<u>1950</u> <u>Actual</u>	<u>1951</u> <u>Actual</u>	<u>1952</u> <u>Plan</u>	<u>1952</u> <u>Actual</u>	<u>1953</u> <u>Plan</u>	<u>1955</u> <u>Control Figure</u>
Maxhuetette						
Thomas pig	252	285	420	328	365	400
Foundry pig	69	65	40	18	--	--
Steel pig and specular iron	27	13	15	8	--	--
Total	348	363	475	354	365	400
EKO						
Thomas pig	--	--	--	62	--	--
Steel pig and specular iron	--	37	60	76	247	600
Total	--	37	60	138	247	600
EWV						
Foundry pig	--	2	90	81	188	400

b. Crude Steel in Ingots

The quantity and quality of crude steel produced depend to a large extent on an adequate supply of steel scrap and steel pig. The 1955 plan calls for an output of 3 million tons of crude steel (see Table 7), or 312 percent of 1950 production. The greatest increase will be in the production of electric-arc steel, which is to be 453 percent of the 1950 production. Table 8 shows a breakdown of production according to plants. In the course of the Five-Year Plan, production of the steel mills is to be expanded to include all known types of steel, including all high-grade steels.

Table 7. GDR Crude-Steel Production

	<u>1950</u> <u>Actual</u>	<u>1951</u> <u>Actual</u>	<u>1952</u> <u>Planned</u>	<u>1952</u> <u>Actual</u>	<u>1953</u> <u>Planned</u>	<u>1955</u> <u>Control Figure</u>
	(in 1,000 tons)					
Thomas steel	194.6	218	325	331	290	575
Open-hearth steel	703.5	1,222	1,367	1,335	1,475	2,135
Electric-arc steel	64.4	97	125	142	175	290
Total	962.5	1,537	1,817	1,808	1,940	3,000
		(in percent of 1950 production)				
Thomas steel	100	112	167	170	149	296
Open-hearth steel	100	174	194	190	210	303
Electric-arc steel	100	151	194	221	272	453
Total	100	160	189	188	202	312

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Table 8. GDR Crude-Steel Production by Individual Plants
(in 1,000 tons)

	<u>1950</u> <u>Actual</u>	<u>1951</u> <u>Actual</u>	<u>1952</u> <u>Plan</u>	<u>1952</u> <u>Actual</u>	<u>1953</u> <u>Plan</u>	<u>1955</u> <u>Control Figure</u>
Thomas steel						
Maxhuette	194.6	218	325	331	290	575
Open-hearth steel						
Riesa	279.6	318	330	342	365	380
Hennigsdorf	168.5	176	185	196	200	250
EKO	--	--	--	--	83	450
Brandenburg	55.2	482	580	532	530	580
Doehlen	31.2	46	50	48	62	85
Groeditz	41.8	52	94	87	105	250
Thale	127.2	147	126	130	130	140
Total	703.5	1,121	1,367	1,335	1,475	2,135
Electric-arc steel						
Maxhuette	42.4	46.8	50	52	54	60
Thale	22.0	27.1	32	41	43	50
Doehlen	--	22.9	43	49	78	180
Total	64.4	96.8	125	142	175	290

Although production of crude steel in 1952 considerably exceeded the 1936 production, additional crude steel (mainly high-grade steel) was imported. Of these imports, 21,600 tons came from Sweden, 67,300 tons from the USSR, and 18,720 tons from other countries.

c. Rolled Steel

By 1955, production of rolled steel is to increase to 2.4 million tons, or 275 percent of 1950 production (See Table 9). Actual 1955 production will probably be still higher. The greatest increase is planned in the production of rails of all kinds. According to the plan, this is to amount to about 210,000 tons, or approximately nine times the 1950 production. Other considerable increases are planned for the production of heavy and thin sheet.

The 1952 plan for cold-rolled steel, set at 32,000 tons, was exceeded; 38,100 tons were produced. If cold rolls can be imported in sufficient quantity, the 43,000 tons planned for 1953 can probably be produced.

Table 9. GDR Production of Rolled Steel

	<u>1950</u> <u>Actual</u>	<u>1951</u> <u>Actual</u>	<u>1952</u> <u>Plan</u>	<u>1952</u> <u>Actual</u>	<u>1953</u> <u>Plan</u>	<u>1955</u> <u>Control Figure</u>
	(in 1,000 tons)					
Hot-rolled steel	872.4	1,083.7	1,400	1,323	1,560	2,400
Semifinished products	82.6	109.4	140	152	190	260
Rails of all kinds	23.2	31.7	106	94	115	210
Seamless tubing	13.2	18.3	28	26	32	60
Tires	24.6	27.4	35	43	45	65
Heavy sheet	128.5	182.5	230	240	265	285
Medium sheet	58.3	74.8	60	51	70	85
Thin sheet	72.4	105.1	105	93	115	165
Steel, cold-rolled	18.7	21.8	32	38	43	60
	(in percent of 1950 production)					
Hot-rolled steel	100	124	160	152	179	275
Cold-rolled steel	100	117	171	203	230	321

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Maxhütte is to roll only Thomas steel (see Table 10). Riesa, Döhlen, Auerhammer, Olbersleben, and other plants are rolling steel for reparations and for armament. According to conservative estimates, about 70 percent of the entire rolled-steel production is used for reparations and for armament. Like the production of crude steel, the production of rolled steel does not suffice to meet the requirements of the GDR. The GDR is thus dependent on imports (see Table 11).

Table 10. GDR Rolled-Steel Production by Individual Plants
(in 1,000 tons)

	1950 Actual	1951 Actual	1952 Plan	1952 Actual	1953 Plan	1955 Control Figure
Maxhütte	185.2	246.4	310	278	310	340
Riesa	141.9	207.3	250	244	255	280
Hennigsdorf	122.1	126.5	180	186	190	200
HO	--	--	--	--	20	330
Brandenburg	--	--	--	--	65	440
Bashen	--	--	--	--	40	85
WZ Th 1a	43.3	72.3	116	107	123	130
WZ Hentstede	152.6	167.4	185	187	185	190
Oranienburg Cable Works	16.1	27.4	28	21	28	23
Groeditz	24.6	19.1	40	43	45	65
Ilberburg	22.6	32.6	45	36	47	52
Wittenberger	72.2	83.8	110	107	110	115
Bautz	17.8	30.4	35	31	35	35
Leuna-Merseburg	24.0	22.1	35	27	35	35
Olbersleben	20.4	20.3	25	26	30	30
Witten	17.8	24.0	40	30	42	45
Witten Bar-Rolling Mill	7.2	4.1	--	--	--	--
Total	1,083.7	1,400	1,322	1,260	1,400	1,400

Table 11. GDR Rolled-Steel Imports in 1952

Country of Origin	Quantity (tons)
USSR and other orbit countries	286,750
Sweden	36,200
Others	91,300
Total	414,250

d. Cast Steel, Cast Iron, Malleable Cast Iron

In 1955, 325,000 tons of steel castings are to be produced, of which 185,000 tons are to be made of alloyed steel (see Table 12). During the next few years, the production of steel castings by the SAGs is to be increased only slightly, while the production of the German-owned plants is to increase from about 81,400 tons in 1950 to 185,000 tons in 1955 (see Table 13). It seems not unlikely that the production target set for cast iron and malleable cast iron in 1955 will be met.

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Table 12. GDR Production of Cast Steel, Cast Iron, and Malleable Cast Iron

	1950 Actual	1951 Actual	1952 Plan	1952 Actual	1953 Plan	1955 Control Figure
	(In 1,000 tons)					
Steel castings	164.8	185.6	245	248	280	325
Alloyed-steel castings	42.1	55.2	130	135	150	185
Cast iron	392.8	426.4	492	521	540	580
Malleable cast iron	14.3	20.1	22	28	28	32
	(In percent of 1950 production)					
Steel castings	100	113	149	149	17	197
Alloyed-steel castings	100	131	309	325	358	440
Cast iron	100	124	125	131	137	148
Malleable cast iron	100	141	154	196	196	215

Table 13. GDR Cast Steel, Cast Iron, and Malleable Cast Iron Production by Individual Plants

	1950 Actual	1951 Actual	1952 Plan	1952 Actual	1953 Plan	1955 Control Figure
Quantity (in 1,000 tons)						
Steel castings						
SAGs	82.4	86.8	102	103	115	140
VEBs	82.4	98.8	143	138	170	185
Cast iron						
SAGs	60.8	79.2	82	93	100	115
VEBs	324.0	407.2	410	428	440	465
Malleable cast iron						
SAGs	3.8	4.1	4.5	5.2	5.5	7.0
VEBs	10.5	16.0	17.5	18.8	22.5	28.0
Percent of total						
Steel castings						
SAGs	51	47	42	44	43	43
VEBs	49	53	58	55	60	57
Cast iron						
SAGs	18	16	17	18	19	20
VEBs	82	84	83	82	81	80
Malleable cast iron						
SAGs	27	20	20	22	20	20
VEBs	73	80	80	78	80	80

c. Pressed and Forged Pieces

Equipment available in the GDR in 1952 for the production of pressed and forged pieces did not nearly suffice to cover requirements. This applies in particular to large pieces, because the necessary material is in short supply, and because large hammers and presses have been dismantled and are therefore lacking. Capacity is to be expanded considerably in the course of the Five-Year Plan (see Table 14).

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Table 14. GDR Production of Pressed and Forged Pieces

	<u>1950</u> <u>Actual</u>	<u>1951</u> <u>Actual</u>	<u>1952</u> <u>Actual</u>	<u>1953</u> <u>Plan</u>	<u>1955</u> <u>Control Figure</u>
Production in 1,000 tons	115.3	119.4	181.3	210.0	240.0
Production in percent of 1950 production	100	104	153	183	208

Table 15 shows production by Soviet-owned and German-owned plants.

Table 15. Production of Pressed and Forged Pieces
by Soviet-Owned and by German-Owned Plants

	<u>1950</u>		<u>1953 Plan</u>		<u>1955 Control Figure</u>	
	<u>(1,000</u> <u>tons)</u>	<u>(Percent</u> <u>of Total)</u>	<u>(1,000</u> <u>tons)</u>	<u>(Percent</u> <u>of Total)</u>	<u>(1,000</u> <u>tons)</u>	<u>(Percent</u> <u>of Total)</u>
Soviet plants	31.2	27.2	42.6	20.3	48.0	20.0
German-owned plants	84.1	72.8	167.4	79.7	192.0	80.0

3. Investments

Until 1950, the iron and steel industry had priority in obtaining investments. In 1951, the investments were lower; in 1952, they rose again, because priorities were given to the construction of EKO, EMW, and Doehlen. The comparatively large investment sums for 1953 are mostly earmarked for these construction projects.

Investments for New Construction (in million RM)

<u>Year</u>	<u>Total East and</u> <u>West Marks</u>	<u>West Marks</u>
1948		
1949	176.8	32.2
1950	247.9	16.7
1951	362.8	27.8
1952	311.2	14.5
1953	341.8	10.7
	315.4	12.0

4. Labor

Because of the migration of trained personnel to the West, the staff of experts available is too small. Since 1951, attempts have been made to give 3-6 month courses to metalworkers to train them for smelter, steel-mill, and rolling-mill work, but these attempts have had only small success. Since mid-1952, Soviet metallurgical engineers have been assigned to the iron and steel plants by order of the Economic Department of the Soviet Control Commission. The engineers are introducing the methods used in Soviet industry.

The number of workers was to be increased from 36,650 in 1950 to 50,200 in 1953 and is to reach 67,000 in 1955. So far, this target seems to have been met. Approximate employment figures at the various plants at the end of 1952 (including administrative, clerical, and plant-guard personnel, but not including construction workers) were as follows:

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EKO	1,640
EMW	860
Doehlen	1,120
Brandenburg	1,880
Maxhuetten	4,410
Riesa	8,120
Hennigsdorf	3,840
Thale	7,340
Kirchmoeser	560

5. 1952 Production

Publications of the State Planning Commission on the fulfillment of the National Economic Plan of 1952 are vague in many respects, including those relating to the iron and steel industry. The figures shown below for actual production were compiled from data which were not published.

Table 16. GDR Iron and Steel Production

<u>Product</u>	<u>1952 Plan (in 1,000 tons)</u>	<u>Actual Production (in 1,000 tons)</u>	<u>Plan Ful- fillment (%)</u>
Pig iron	625	573	92
Thomas pig	420	390	93
Crude steel in ingots	1,817	1,308	100
Thomas steel	325	331	102
Open-hearth steel	1,367	1,335	98
Hot-rolled steel	1,400	1,323	95
Sheet	395	384	97
Steel castings	245	246	100
Cast iron	492	521	106
Malleable cast iron	22	23	109
Pressed and forged pieces	146	181	124

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